

REMARKS

This Amendment is being filed in response to the Office Action mailed September 27, 2004. Claims 1-72 are pending. Claims 1 and 44 have been amended.

In the Office Action, the Examiner rejected claims 1 and 34-36 under 35 U.S.C. § 102 (a) and (e) as being anticipated by Murakami et al. (U.S. Patent No. 6,607,830). The Examiner has also made the following rejections under 35 U.S.C. § 102(b): claims 1 and 34 have been rejected as being anticipated by either Adams (U.S. Patent No. 4,049,856), Saito (U.S. Patent No. 5,154,977) or Inciong (U.S. Patent No. 5,687,975); and claims 1 and 34-39 have been rejected as being anticipated by Gallo et al. (U.S. Patent No. 5,362,074). In addition, claims 1 and 44 have been rejected under 35 U.S.C. § 102(e) as being anticipated by Krasij et al. (U.S. Patent No. 6,660,422). The Examiner has indicated that dependent claims 2-33, 40-43 and 45-72 would be allowable if rewritten in independent form including all limitations of the base claim and any intervening claims.

Independent claim 1, which is directed to a gasket assembly for placement between the periphery of the face of a fuel cell stack and a manifold, has been amended to clarify that the gasket assembly has one or more of: different compressibilities over predetermined portions of the length of said gasket assembly and a resilient shim disposed within preselected sections of said gasket assembly. Independent claim 44, which is directed to a fuel cell stack assembly comprising a fuel cell stack, manifold and gasket assembly, has been similarly amended.

None of the references cited by the Examiner teach a gasket assembly as recited in claims 1 or 44. With regard to claim 1, the Examiner states that Murakami et al. disclose a gasket (6) including an internal metal shim (6b) between layers (6c) of rubber, which according

to the Examiner teaches “a gasket in which a resilient shim is disposed within sections thereof, the term ‘preselected sections’ encompassing the entire gasket,” and a corrugated “bead portion” (6a), which the examiner characterizes as “a resilient section extending outwardly” from the shim. Applicants respectfully disagree.

Murakami et al. does not teach or suggest a gasket assembly as recited in claim 1, namely, having a resilient shim disposed within preselected sections of the gasket assembly. There is no teaching or suggestion that the metal shim 6b itself is resilient in either its materials or construction. Moreover, although the Examiner refers to bead portion (6a) for support for a “resilient section extending outwardly” from the plane of the shim, such bead portion is not a part of the metal shim 6c and is separated from the metal shim by rubber layers 6c. The metal plate 6b taught by Murakami et al. and referred to by the Examiner as the internal metal shim is simply not resilient. Accordingly, claims 1 and 34-46 are not anticipated by the Murakami et al. patent.

The cited Adams, Saito, Inciong and Gallo et al. patents also do not teach a gasket assembly having one or more of different compressibilities over predetermined portions of the length of the gasket assembly and a resilient shim disposed within preselected sections of the gasket assembly, as recited in claim 1. Adams teaches a cylinder head gasket (5) including a metal core (11) between layers (10) of a composite material. Saito teaches a gasket including a metal plate (11) surrounded with layers of iron phosphate (12), chromium (13), epoxy primer (14), vulcanized rubber (15) and graphite (16); the Examiner refers to the metal plate (11), iron phosphate (12) and chromium (13) as a resilient shim. Inciong teaches a sealing assembly including an elastomeric gasket (10) that has a barrier strip (28) disposed therein to effect an internal seal and prevent fluid flow through the gasket. According to Inciong, the strip (28)

may be either a flat strip of sheet metal or plastic. Gallo et al. teach a gasket (20) with central metal shim (26) and a metallic core (34) which has a planar face (42) and tangs (48) extending outwardly from the face (42) into layer (28). Although the Examiner has suggested that the tangs (48) provide resiliency, according to Gallo et al., the tangs (48) impart strength to the layer (28) and minimize separation or slippage of the layer under high load conditions.

While each of these references do teach gaskets including a metal core or shim with additional materials suitable for gasketing, none of the references teach or suggest a gasket assembly for placement between the periphery of the face of a fuel cell stack and a manifold, said gasket assembly having one or more of: different compressibilities over predetermined portions of the length of said gasket assembly; and a resilient shim disposed within preselected sections of said gasket assembly, as required by claim 1. Particularly, none of the metal core (11) of Adams, the combination of metal plate (11), iron phosphate (12) and chromium (13) taught by Saito, the barrier strip (28) of Inciong, or the combination of the shim (26) and metallic core (34) taught by Gallo et al., teach or suggest a resilient shim.

With respect to claims 1 and 44, the Examiner states that Krasij et al. teach a fuel cell with gasket around the periphery of a manifold (10), which may be joined to the cell by a combination of rubber strip (20) and silicone rubber seal (15a). The Examiner concludes that Krasij et al. disclose a gasket having two components with different compressibilities, because the rubber strip and silicone rubber seal are two different materials. However, Krasij et al. does not teach or suggest a gasket assembly having one or more of: different compressibilities over predetermined portions of the length of said gasket assembly; and a resilient shim disposed within preselected sections of said gasket assembly, as required by amended claims 1 and 44.

In particular, Krasij et al. teach a manifold seal having the same compressibility (i.e., the combined compressibility of the two different materials) at every point along the length of the seal, regardless of the difference in compressibilities of the two different layered materials. In contrast, applicants' claims 1 and 44, as amended, specifically recite the feature of different compressibilities over predetermined portions of the length of the gasket assembly.

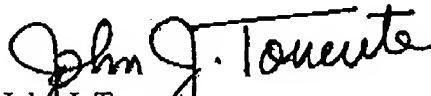
Applicants therefore respectfully submit that the none of the Murakami et al., Adams, Saito, Inciong, Gallo et al. and Krasij et al. patents cited by the Examiner disclose the features of the claimed gasket assembly or of the claimed fuel cell stack assembly comprising fuel cell stack, manifold and gasket assembly, and thus the cited patents do not teach or suggest the invention as claimed in amended claims 1 and 44 within the meaning of Section 102. Dependent claims 34-39 are also submitted as patentable because they differ in scope from the parent independent claim, which is submitted as patentable. Reconsideration of the claims is respectfully requested.

Applicants therefore respectfully submit that independent claims 1 and 44, as amended, and claims 34-39, which depend directly or indirectly from claim 1, all patentably distinguish over the cited references. Based on the patentability of claims 1 and 44, claims 2-33, 40-43, and 45-72 are also submitted as patentable. If the Examiner believes that an interview would expedite consideration of this Amendment or of the application, a request is made that the Examiner telephone applicant's counsel at (212) 790-9273.

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Respectfully submitted,

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